EXPERIENCE OF POSTNATAL MOTHERS ON CARING SKILLS TO PREVENT COMPLICATIONS OF PREMATURE BABIES IN NEONATAL INTENSIVE CARE UNIT AT MUHIMBILI NATIONAL HOSPITAL

Anna Leonce Babu

Master of Science (Midwifery and Women's Health) Dissertation
Muhimbili University of Health and Allied Sciences
October 2019

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES (MUHAS)

DEPARTMENT OF COMMUNITY HEALTH NURSING

EXPERIENCE OF POSTNATAL MOTHERS ON CARING SKILLS TO PREVENT COMPLICATIONS OF PREMATURE BABIES IN NEONATAL INTENSIVE CARE UNIT AT MUHIMBILI NATIONAL HOSPITAL

By

Anna Leonce Babu

A Dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree of Master of Science (Midwifery and Women's Health) of

The Muhimbili University of Health and Allied Sciences
October 2019

CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation entitled. **"*Experience of Postnatal mothers on Caring Skills to Prevent Complications of Premature babies in Neonatal Intensive Care Unit at Muhimbili National Hospital"*** in (Partial) fulfillment of the requirements for the degree of Master of Science (Midwifery and Women's Health) of Muhimbili University of Health and Allied Sciences.

_____

Dr. Lilian T. Mselle (PhD. RNM)

(Supervisor)

_____

Date

DECLARATION AND COPYRIGHT

I Anna Leonce Babu declare that this dissertation is my own original work and it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature …….. Date …….

ACKNOWLEDGEMENT

I thank the almighty God for his protection and giving me strength during the entire period of conducting my research study because without him this study would not have been possible.

I would like to express my sincere gratitude and appreciation to my supervisor Dr. Lilian T. Mselle for her tireless support, thoughtful critiques, valuable comments, and suggestions based on the study

I extend my thanks to my course lecturers and all members of staff of the School of Nursing, MUHAS for their advice, encouragement and constructive comments that aided the accomplishment of my study.

Also, my sincere gratitude goes to the Executive Director of Muhimbili National Hospital for allowing me to conduct the study at their institution. I would like to extend my special thanks to the Neonatal ward in charge, Sr Nay Ibrahim Mollel and all staff for their cooperation and support during data collection. Further, I wish to express my sincere gratitude to all of my study participants.

My sincere special thanks and appreciations go to my family and my parents for their prayers, encouragement, social and financial support during the entire time of my studies

I would like also to express my profound gratitude to my colleagues in class for valuable inputs during the proposal development and analysis to come with this useful information of the study. As I cannot mention each and every person who supported me in one way or another in this work, I am taking this opportunity to thank you all for your valuable contributions to this study.

DEDICATION

I dedicate this dissertation to God Almighty my creator, my strong pillar, my source of inspiration, wisdom, knowledge, and understanding. He has been the source of my strength throughout this program. I also dedicate this work to my husband Daniel Shunu Kingu for his support, understanding, and tolerance of my busy academic schedule during the whole course of my master's studies. To my beloved children; Martha Daniel and Joshua Daniel for tolerating my absence when I was late at home from my studies. This dissertation is also dedicated to my beloved parents; my father Leonce Babu and Ms. Donatha Constantine who through their good care and support, gave me a good education foundation that has brought me to this level.

ABSTRACT

Background

Premature delivery is an obstetric complication that leads to delivery of the premature baby. Premature babies have risks of developing complications such as neonatal sepsis, jaundice, hypothermia, aspiration pneumonia and respiratory distress due to their prematurity condition and also growth and developmental impairment as long term complications. Some of the complications may occur during the care that the premature babies received either from medical intervention or mothers. Mothers are commonly integrated into the care of their premature babies at the NICU, therefore it is important to understand their experience in preventing complications of premature babies when caring for them.

Aim

This study explored the experiences of postnatal mothers on caring skills in preventing complications of premature babies during care at NICU, MNH.

Methods

The descriptive qualitative research design was conducted at MNH. In-depth interview was conducted using an interview guide to collect data, using the Kiswahili language and were audio-recorded. Twelve (12) participants aged 18-31 years old were conveniently recruited for the study and the principle of saturation guided the recruitment process. Thematic analysis guided analysis of the data.

Results

The postnatal mothers reported receiving continuous information, support and guidance on premature complications during care from health care providers. They used various strategies such as proper handwashing, covering of the baby with clothes and burping of the baby after each feeds to prevent the complication of premature babies like neonatal infection, hypothermia and aspiration pneumonia respectively. However, mothers faced some challenges when caring for these babies. They reported being emotional, missed social and economic support, lack of medical equipment and supplies and physical exhaustion. Moreover, mothers use religious belief and encouragement as the coping strategy that helping them to endure suffering while caring for their babies in NICU.

Conclusion

Mothers receive support, guidance and information from healthcare providers that help them prevent complications of the premature babies when providing care at the NICU. Mothers use various strategies such as maintain hand washing, covering the baby with clothes and burping of the baby after each feeds to prevent complications such as neonatal infection, hypothermia, and aspiration pneumonia. Also, mothers experience challenges such as being emotional, missed social and economic support, lack of medical equipment and supplies and physical exhaustion.

Keywords: Premature baby, premature babies complications, mother's experience, NICU

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

LIST OF ABBREVIATION

GA	Gestational Age
HCP	Health care Providers
MNH	Muhimbili National Hospital
MoHCDGEC	Ministry of Health Community Development Gender Elderly and Children
MUHAS	Muhimbili University of Health and Allied Sciences
NICU	Neonatal Intensive Care Unit
PTL	Preterm Labor
SDG	Sustainable Development Goal
UN	United Nation
UNICEF	United Nations Children's Education Fund
WHO	World Health Organization

OPERATIONAL DEFINITIONS OF TERMS

Preterm babies: Babies born less than 37 weeks of gestation or pregnancy regardless of their body weight

Neonatal Intensive Care Unit (NICU): The unit where high-risk neonates including preterm babies are cared for

Preterm complication: Is an unfavourable evolution or consequence of the prematurity

Prevention: The action of stopping the complication from happening

Experience: The knowledge or skills acquired due to the everyday practical life of mothers when caring for their preterm babies at NICU

Mothers: Nursing mothers who have delivered preterm babies and their babies are admitted in NICU

Very Low Birth Weight: Babies with a birth weight of 1.5 kilograms or less

CHAPTER ONE

1.3 Background

Preterm babies are babies born before 37 completed weeks of pregnancy or gestation regardless of gestational age or birth weight (1). Premature babies are classified as high-risk neonates (2) because they have higher chances of morbidity and/or mortality due to their prematurity condition associated with birth complications and the adjustment to extrauterine life (3). These complications include respiratory distress, gastrointestinal, neurological diseases, and even death when compared with babies born after 37 weeks of gestation. Prematurity is also a risk for lifelong disabilities including visual, hearing, cognitive delay and cardiovascular impairments (1,4,5) as it was reported that about 1 million small and sick newborns will present with a long-term disability among survivors (6).

In many instances, the exact cause of preterm birth is unknown (2). However, there are several predisposing factors leading to a reduction in the gestational period or accelerate the preterm birth in expectant mothers. These include the previous history of stillbirth, previous history of miscarriage, urinary tract infections (UTI), hard physical work pregnancy, pregnancy-induced hypertension, placenta previa, placenta abruption, multiple pregnancies, premature rupture of membranes, smoking, alcohol intake, cervical incompetence and lack of antenatal visits (5,7–9). Additionally psychosocial factor (maternal anxiety and stress during pregnancy), behavioural factor and maternal circumstance (violation and trauma) and in the health system, lack of prenatal care (10)

Nearly 30 million babies are born too soon globally and require some level of inpatient care each year (6). It is estimated that 2.5 million newborns died during the first 28 days of life of which 80% of these had low birth weight, and two-thirds were born prematurely (3). Almost all neonatal deaths (98%) occur in low and middle-income countries, with 78% in Southern Asia and sub-Saharan Africa (6).

In Tanzania, 236,000 babies are born too soon annually of which 10,800 children under five die due to direct premature complications (11). In 2018, more than 2 hundred premature babies were admitted at MNH and 90 of them died (12)

More than 80% those deaths are the result of causes that could have been prevented with basic solutions such as affordable, quality health care delivered by well-trained doctors, nurses and midwives, antenatal and postnatal nutrition for mother and baby, and clean water (3), also provision of antenatal steroid injections i.e. given to pregnant women at risk of preterm labor and under set criteria to strengthen the babies' lungs, magnesium sulfate for fetal protection against neurological complications, antibiotics for preterm labor to counteract the mothers and newborns infections (1). Moreover, Kangaroo Mother Care (KMC) is implemented to enhance thermal regulation to premature newborns. The KMC is the way that the baby is carried by the mother with skin-to-skin contact and enhance the frequent breastfeeding (4,13). and resuscitation with bag and mask and continuous positive airways pressure for babies who need respiratory support (3). Furthermore counseling on healthy diet and tobacco and substance use, fetal measurements including use of ultrasound to help determine gestational age and detect multiple pregnancies and a minimum of 8 contacts with health professionals throughout pregnancy to identify and manage other risk factors, better access to contraceptives and increased empowerment could also help reduce preterm births (14).

To improve the outcome of premature babies, the WHO recommendations such as the provision of antibiotics for premature rupture of membranes, vaginal delivery preference, tocolysis, ANC and Kangaroo Mother care have been included in Tanzania's clinical standards of premature care at the hospital level (11). In addition, the provision of surfactants and continuous positive airways pressure for babies who need respiratory support is practised in tertiary hospitals.

Mothers are commonly integrated into care of their babies at NICU. The care that is provided by mothers is a developmental and process extending from passive to active that includes touching, soothing, and holding. They also provide physical care including feeding, bathing, positioning, and diapering (15). Therefore, mothers as one of the key players in the care of premature babies at NICU, their understanding of preventing complications of premature babies is important.

1.4 Problem statement

Prematurity is the leading cause of death in children under the age of 5 years globally (16) and the second leading cause of neonatal death in Tanzania after asphyxia (17). Globally, the average neonatal mortality rate is 18 deaths per 1000 live birth with a range of 1– 44 deaths per 1000 of which sub-Saharan Africa had the highest neonatal mortality rate of 27 deaths per 1000 live birth followed by Southern Asia with 26 deaths per 1,000 live births. Two third of these deaths are contributed by prematurity (18). Due to this unacceptable statistics and the pressure to address the significant number of deaths, the Survive and Thrive (WHO, 2018), Sustainable Development Goal (UN, 2015) and Global Strategy for Women's, Children's and Adolescents Health (WHO, 2016) have primary focus in improving maternal, child and newborn health around the world. Neonatal mortality in Tanzania is 25 deaths per 1,000 live births of which, 24% contributed by prematurity (17,19). Premature babies are commonly dying due to complications of prematurity such as respiratory distress, sepsis, aspiration, intraventricular haemorrhage, necrotizing enterocolitis, and poor thermal regulation (2,5,6). About 20% of neonatal deaths are due to infections because the immune system is immature, the antibodies production becomes low that leads to the acquisition of infections (5,17). Most of the complications of premature babies occur during care. Like in other hospitals providing NICU care, at Muhimbili National Hospital, mothers are integrated into care of their babies.

While interventions such as resuscitation with bag and mask and continuous positive airways pressure, antibiotics for infection and support skin to skin contact have been found to reduce premature morbidity and mortality (1,5,8), there is limited information on how postnatal mothers prevent common complications of premature babies at NICU. It should be understood that if postnatal mothers have no necessary skills to prevent complications of the premature babies, they may considerably contribute to complications of premature babies even deaths. Studies in Tanzania on premature babies have primarily focused on risk factors associated with preterm babies (7,20). Little has been reported on the experience of postnatal mothers in preventing complications of premature babies when providing care at NICU. This study, therefore, describes the experience of postnatal mothers in the prevention of complications of premature babies.

1.5 Significance of the study

The result from this study will inform the hospital authorities to identify needs of the mothers when caring for premature babies and prepare guidelines and protocols that would guide the practice of healthcare providers at NICU geared at assisting mothers to effectively prevent premature complications. Further, it will generate modalities to identify and support postnatal mothers to ensure complications of premature babies are prevented. Moreover, the findings of this study will unearth other areas for further research.

1.6 Research questions

1. What information and support do mothers receive to prevent infection, hypothermia and aspiration pneumonia when caring for premature babies at NICU?
2. What strategies do mothers' use to prevent infections, hypothermia, and aspiration pneumonia when caring for premature babies at NICU?
3. What are the challenges do mothers face in the prevention of complications of premature babies at NICU?

1.7 Objectives

1.7.1 Broad objectives

To explore the experiences of postnatal mothers on skills they use when preventing complications of premature babies at NICU, MNH

1.8 Specific objectives

1. To illustrate information and support mothers receive in preventing infection, hypothermia and aspiration pneumonia during care of premature babies at NICU
2. To describe strategies used by mothers to prevent infections, hypothermia, and aspiration pneumonia when caring premature babies at NICU
3. To describe challenges mothers face in preventing complications of premature babies at NICU

1.9 Conceptual framework

The original health system needs and human capital outcome framework has two main parts, first is health system care needed which this help to provide care and increase the survival of premature babies by providing the essential maternal and newborn care, extra care for small babies, care of premature babies with complications and intensive neonatal care. The other part shows the loss of human capital as an outcome of prematurity including neonatal death, increased risk of non-communicable disease and children with severe long-term disabilities like learning or behaviour (21). This entire impairments outcome has a toll on families and on the health system.

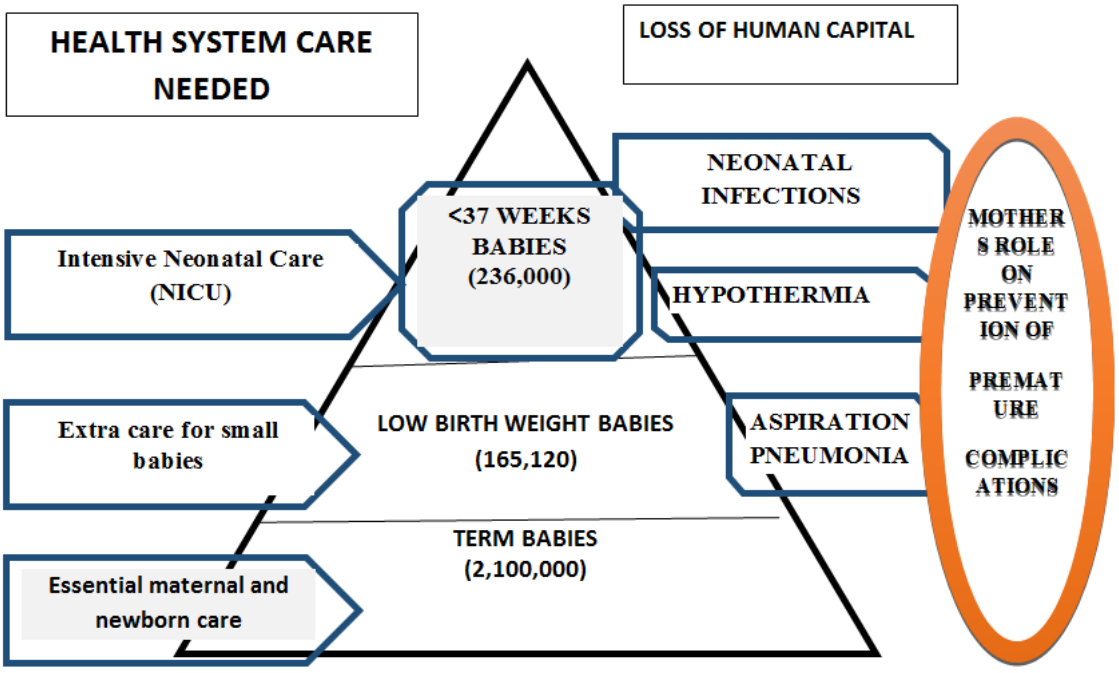


Figure 1: A modified conceptual framework of health system needs and human capital outcome

Source: Lawn et al,. 2013

The health system needs and human capital outcome framework was adapted from Lawn and her colleagues and modified to the context of this study. This framework was used to understand accounts of mothers in preventing complications of premature babies and guide the discussion of the findings. The numbers used in this framework is the number of babies who delivered annually in Tanzania per each category; term baby, low birth weight and premature babies (11,17). The health system care needs to provide different packages of care and evidence-based interventions to small and sick babies thus reduce morbidity and mortality. Babies are commonly dying due to complications such as neonatal infection, hypothermia and aspiration pneumonia that are preventable**.** As the occurrence of premature complications is multifactorial, it is likely that mothers may facilitate the occurrence of complication when caring for their babies at NICU. For example, mothers may cause neonate infection when feeding their baby contaminated milk.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Premature babies complications

Preterm birth is birth that occurs before 37 completed weeks of pregnancy which results in premature neonates (2). These neonates are grouped according to birth weight, gestational age, and predominant pathophysiologic problem. The neonates who are classified according to birth weight are: Low Birth Weight (<2500g), Very Low Birth Weight (1500g or less), Extremely Low-Birth Weight (1000g or less), Appropriate-for-gestational-age, Small-for-date, Intrauterine Growth Restriction, and Large-For-Gestational Age neonates (5,8) and on the basis of gestational age are extremely preterm (<28 weeks),very preterm (28- <32 weeks) and moderate or late preterm (32- <37 completed weeks of gestation) (13)

Premature babies have the risks of developing complications commonly infection, hypothermia, neonatal jaundice, respiratory distress syndrome, and aspiration pneumonia because their body's system is not matured (1,2). So life-saving essential and extra newborn care is needed (22). Most of intervention done to save their lives leads to complications of infection to newborn including medical intervention like prolonged duration of parenteral alimentation with delayed enteral nutrition, intravascular catheterization, extended respiratory support on ventilators, prolonged intravascular access and use of broad-spectrum antibiotics are recognized risk factors for neonatal infection which 70% were caused by Gram-positive organisms (6,23). Also, the health care providers can transmit the infection to the newborn during the provision of care due to poor compliance of simple measurers of hand hygiene before and after patient contact (24). Moreover, parents/ mothers can transmit the infection during caring for their premature babies (25). Further, the same study recommends that hand hygiene should be emphasized for all visitors/caregivers in the NICU. Prevention of further complications to premature babies needs the caring skills of the mothers and health care providers (6).

Therefore little has been reported in most of the literature on how caring mothers consciously prevent premature babies complications which this study aimed to fill this gap.

2.2 Mothers experience in the prevention of premature babies complications

WHO recommends a family-centered approach which empowers parents by involving them in caregiving for their newborn that results in a mutually beneficial partnership through which parents, families and health-care providers all support health-care planning, delivery, and evaluation and most importantly strengthening parents' skills and competence in caring for their small and sick babies (6). Considering the uniqueness of the mother's role in responding to the needs of infants, the healthcare provider should consider mothers as the real target in the intervention strategies in order to promote health and quality of life, so maybe this way, the burden of further premature complication will be reduced (26). Also, a study was done by Saudah and Merian support this information that health care provider are key facilitators to mother so that they can independently take care of their premature babies in NICU and after discharge from the hospital (27)

A study done in Kenya reported that about 53% of mothers had insufficient knowledge of thermoregulation and were not counseled on kangaroo mother care. Further, 54% didn't know that keeping their babies warm was of importance. It was further reported in the same study that 91% of mothers had low knowledge levels on pre-lacteal feeds as detrimental to the infant (28). In another study done by Amolo et al., 2017 on knowledge of thermoregulation, mothers identified different modes of thermoregulation to premature babies, among them 7% identify kangaroo mother care, 4% a warm room and 93% warm clothing (29)

The bond between parents and their premature babies is facilitated by the caring attitude and regular communication of continuity of care from nurses which results in a good feeling of parenthood and helps them to play their role as parents on providing care to their premature babies (30). Other studies recognize that communication was often the core of the mother's experiences when caring for their babies at the NICU and lack of good communication toward the continuity of care of their babies contributes to feelings of loneliness, abandonment and unwanted responsibility, which adds to the burden of an already difficult situation of having premature baby (31,32).

The experience of parents on having an infant in the NICU is often psychologically traumatic and no parent can be fully prepared for the extreme stress and range of emotions of caring for a critically ill newborn (33). So providing psychosocial support to parents whose infants are hospitalized in the NICU can improve parents'/mothers' role of caring as well as their relationships with their premature babies (34).

In Tanzania like other areas that provide NICU care to premature babies and postnatal mothers are integrated into caring for their babies. Mothers provide feeding, changing of position, diapering, maintain thermal regulation and other activities to help their babies (15). However, in Tanzania little has been reported in the experience of postnatal mothers on caring skills to prevent complications of premature babies when caring for their babies at NICU. Hence this study aimed to fill this gap.

2.3 Challenges of mothers when caring for premature babies

The premature newborns require special care in the Neonatal Unit with periods of hospitalization that may last for days and even months, because of their health situation (35). The hospitalization of a premature baby in the NICU is difficult and challenging for mothers and their families, since the environment of the NICU separates the babies physically, psychologically, and emotionally from their parents (36). Also, the families must face several problems during the period of hospitalization, like challenges to family dynamics in term of economic, shame as a social stigma, the experience of separation, fear of disease and the unknown, the hospital environment, and overwhelmed with uncertainties about the present and the future of the family that is, the clinical evolution of the baby and its survival (36,37). In contrast, Heinemann et al argued that some parents with infants hospitalized in the NICU actually found the unit environment to be welcoming, quiet and they felt more relaxed with staff and other parents in the NICU (38). In a similar study, parents reported having a positive experience with their infants' admission to the NICU because they spent a long time with their infants and had good communication with staff.

A study done by Pereira (39) found that mothers meet the challenge of expressing breast milk, as referred by mothers as a lack of assistance from staff on how to express. This is due to prematurity complication the baby fails to suck so the mothers used to express breast milk to feed their baby (8).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study design

This study employed a descriptive qualitative design (40). The design was identified to be appropriate for the research question because it focuses on whom, what, and where of events or experiences. Therefore the design was used on gaining insight from participants' experiences of preventing complications of premature babies at NICU.

3.2 Study setting

The study was carried out in Muhimbili National Hospital, which is the largest public, referral and tertiary hospital in Tanzania. In addition to premature babies delivered at MNH, the NICU receives premature babies referred from different hospitals around Dar es Salaam and upcountry.

Muhimbili National Hospital is organized into eight directorates which are Medical Services, Clinical Services, Nursing Services and Quality, Clinical Support Services, Human Resources, Finance and Planning, Technical Services, and Information and Communications Technology. Maternity block is under Nursing Services and Quality directorates have 2 neonatology wards and other wards of which ward 37 is for premature babies. It has the capacity of 35 baby coat, the ward has 3 units includes Continuous positive airway pressure (CPAP) room for babies who need respiratory support and room 1 & 2 for babies who do not require respiratory support. Mothers stay in postnatal wards with their babies at NICU for management and the mothers should visits their babies every three hours in order to provide care like feeding, diapering, thermal regulation and changing position.

The on-call team on each day includes one neonatologist, one medical doctor, one intern doctor and nurses who work 24 hours in NICU giving care to premature babies like diagnosing and managing the complications also among the nurses' roles is to support mothers when they provide care to babies.

The most premature conditions managed at NICU are asphyxia, neonatal sepsis, neonatal jaundice, aspiration pneumonia, respiratory distress, intraventricular hemorrhage, necrotizing enterocolitis and hypothermia etc

3.3. Study participants

Study population refers to a group of people taken from the target population who share common characteristics such as sex, age, or health condition (40). Participants for this study were postnatal mothers who had given birth to premature babies and whose baby is admitted at NICU.

3.4 Criteria for selecting study participants

3.4.1 Inclusion criteria

First-time mothers who gave birth to a premature baby before 37 weeks of GA with a baby's weight of 1500g BWT or less and with a baby admitted at NICU for not less than 14 days.

First-time mothers are selected in order to reduce possibility of interference on caring skills of other deliveries to current caring baby if multpara could be interviwed. The average stay of premature babies at NICU is 14 days, after this period babies are transferred to the kangaroo mother care ward or discharged home. It was assumed that mothers stayed with their premature babies at NICU in such a period will have adequate experience of caring babies and therefore provide breadth and depth information about how they consciously prevent complications of premature babies.

3.4.2 Exclusion criteria

The postnatal mothers who were sick and mothers whose babies were too sick were not included in the study.

3.5 Sampling method

Sampling refers to the process used to select a portion of the population for study (40). A convenience sampling technique was used to recruit participants in this study (41). Convenience sampling is a non-probability sampling strategy where the sample is taken from the group of people that are easy to reach and are accessible at a time of data collection. Postnatal mothers who met inclusion criteria and who were available and accessible at a time of data collection were enrolled until the point of saturation is achieved.

In qualitative research studies, the sample size is not predetermined therefore the principle of saturation was the guide to participant's recruitment**.** Therefore 12 mothers with hospitalized premature babies were recruited.

3.6 Data collection methods and procedure

3.6.1 In-depth interview

The in-depth interview was used to explore postnatal mothers' experience of caring skills in preventing complications of premature babies'. An in-depth interview is a technique that involves conducting an intensive individual interview with a small number of participants (40). An in-depth interview was useful in this study because it provides detailed information about postnatal mothers' thoughts, behaviours and the experiences of complications prevention when caring the premature babies. The in-depth interview was guided by the in-depth interview guide (Appendix I), the tool that contains the questions that provide guidance or directs the conversation during the interview (40). The in-depth interview guide was developed by the researcher and composed of participants characteristics data, open-ended questions and probing questions related to the experience of postnatal mothers on caring skills in the prevention of complications when caring for the premature babies as per objective stated. The tool was prepared in English using the content of the literature review. It was then translated into Kiswahili (Appendix II), the national and commonly used language in Tanzania. The use of Kiswahili language during interviews enables postnatal mothers to share their experiences on complications prevention when caring premature babies at NICU, hence increase data credibility.

The interviewer also remained open to other emerging issues. Preliminary analysis of data was done upon conduction of the first interviews and for subsequent interviews. This enables the refinement of the tool by using new insights generated during interviews. This increases the dependability of the study.

3.6.2 Data collection procedure

To ensure credibility the researcher ensured participants' trust by creating rapport and showing the concern of their premature birth to be empathetic to the situation. Self-introduction and purpose of the study were clarified and participants were requested to participate voluntarily. The data was collected at MNH maternity block side room of the

neonatal ward which was free of destructions to avoid inconveniences during the interview procedure and this insured privacy and confidentiality of participants. After every three hours, the mother should come to NICU to care for their premature babies and return to their respective postnatal wards. With the aid of ward in-charge, she helped the researcher to identify eligible mothers through checking in admission book then the researcher spoke with identified mothers to look whether they met the criteria so after they have had cared for their babies mothers who met criteria were interviewed. The researcher had a notebook to note all activities that happen during the study and decisions about aspects of the study, this increase the dependability of study.

The permission to audio record was sought from each participant and an interview was done during day time. With active listening and nonjudgmental, the data was collected by the researcher to gain postnatal mothers understanding of their experience in preventing complications of premature babies. The duration for each interview lasted between 20 and 40 minutes.

3.7. Data analysis

A thematic analytical framework was used to analyze data (42). Thematic is a method for identifying, analyzing, and reporting patterns (themes) within data. The analysis process has six stages; familiarizing yourself with your data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report (43). The Swahili audio-recorded interviews were transcribed verbatim. The researcher examined all the transcripts for accuracy and completeness against the audio recorded interview before starting coding. The researcher read and re-read carefully the Swahili transcript and field notes word by word many times to become familiar with the content. The related ideas of mothers' experience in preventing premature complications were noted down. From Kiswahili related sentences, the researcher extracted the list of initial Kiswahili codes and then translated them to English. After the coding process, themes were searched from the general list of codes the research team had identified 11 sub-themes. Then through observation and interpretation of codes, similarities and differences were considered and sub-themes further consolidated resulting in 3 themes as per objectives and one emerging theme.

The conformability was ensured were the recorded interviews and non-verbal cues obtained during data collection were complemented to direct quotes from participants.

The supervisor was served as the external audit of the data by examining, explore and challenge the whole process of data collection, data analysis, interpretations and conclusion whether are reflected and supported by data itself.

Table 1: Example of the data analysis process

Theme: Strategies used by mothers in preventing complications of premature babies

Sub-themes	Codes
Preventing neonatal infection	Proper hand hygiene General body hygiene of the mother and the baby Regular changing of diapers
Preventing hypothermia	Proper covering of the baby using clothes Regular measuring of the baby's temperature Skin to skin contact with the mother
Preventing aspiration pneumonia	Sleeping position of the baby Burping the baby after each feeds Feeding method of the baby

3.8 Data handling and storage

Confidentiality was ensured and strictly maintained by the research team throughout the research process while taking audiotapes, field notes and during the analysis stage. The information gathered from participants was used only for academic purposes. Access to the collected information was protected via password and hard copies kept in a secured cabinet.

3.9. Ethical consideration

Ethical approval was obtained from the research and publications committee of Muhimbili University of Health Allied Sciences (MUHAS) (Appendix V). Permission to conduct the study was obtained from the Executive Director of Muhimbili National Hospital (MNH) (Appendix VII). Participants were informed about the purpose, benefits, and risks of the study and voluntary nature of their participation and that they had the right to withdraw from the study any time. Confidentiality was assured as; during introduction and dialogues, they were called by numbers in steady of their real names. Thereafter, those who were agreed to participate in the study were signed the consent form (Appendix III & IV) before their participation.

3.10: Dissemination of the study findings

The research report will be submitted to the MUHAS Directorate of Post-graduate studies. Also, findings will be disseminated to Director of MNH, University and MoHCDGEC Libraries and will be presented in various National and International Conferences as well as published in nursing and midwifery journal.

CHAPTER FOUR

4. RESULTS

4.0 Introduction

This chapter presents the findings from an in-depth interview with twelve participants. The findings on the participants' characteristics are shown in table 2. The themes were predetermined based on the objectives of the study. These are postnatal mother's experiences on information and support that they receive in preventing complications of premature babies, strategies that mothers apply to prevent complications of premature babies when providing care and challenges that postnatal mothers encountered when caring premature babies at NICU in MNH.

4.1 Characteristics of the study participants

The age of 12 postnatal mothers involved in this study ranges from 18-31years. Majority were between 20-24 years of age (n=6), had secondary education (n=6), were married (n=6), and resided in Dar Es Salaam Region(n=9). (see Table 2).

Table 2: Participants characteristics N= 12

Characteristics	**Frequency**	**Percentages (%)**
Age		
15-19	3	25
20-24	6	50
25-29	1	8.3
30-35	2	16.7
Level of education		
Primary	4	33.3
Secondary	6	50
University	2	16.7
Marital status		
Single	2	16.7
Married	6	50
Cohabiting	2	16.7
Divorced	2	16.7
Address		
Dar Es Salaam	9	75
Pwani	2	16.7
Morogoro	1	8.3

Table 3: Showing the pre-determined and emerged themes with respective Sub-themes

The following table summarizes the three pre-determined themes and one emerged theme with reflected sub-themes which guided the result section

Pre-determined and emerged themes	**sub-themes**
Postnatal mothers experience on receiving information and support in prevention of premature babies complications	Information on precaution of premature complications Support and guidance
Strategies used by mothers in preventing premature babies complications	Neonatal infection – Proper hand hygiene – General body hygiene of the mother and the baby – Regular changing of diapers Hypothermia – Proper covering of the baby using clothes – Regular measuring of the baby's temperature – Skin to skin contact with the mother Aspiration pneumonia – Sleeping position of the baby – Burping the baby after each feeds – Feeding method of the baby
Challenges experienced by mothers in prevention complications of premature babies	Mothers experiencing difficulties and emotions Lack of social and economic support from the family Lack of medical and supportive equipment and supplies Physical exhaustion
Coping strategy	Religious belief Encouragements

4.2: Information and support received by mothers in preventing complications of premature babies

4.2.1: Information on prevention of complications of premature babies

The participants experienced receiving of information from the health care providers. Mothers reported that they did not receive any information prior to giving birth to their premature baby but once they were admitted to the neonatal ward, they were educated about how to care for their babies. They received the information that facilitated the prevention of premature complications when caring for their babies at the NICU. Also, mothers had reported that various strategies were used to ensure that they got information about caring and are conversant with the care of premature babies like teaching classes, bedside instructions during doctors round and peer teaching:

> *(...) we thank God that nurses give us education first that helped us to know how to care our babies (...) there are classes they teach us IDI 11*

Others had no such opportunity:

> *(...) I had not received any education from my birth (...) because I have been referred from another region (...) but since I came here (neonatal ward) I have had a great opportunity to know how to care a premature baby through the classes we are given by nurses (...) even when I go home I have something to help my baby (...) I'm very happy (...) IDI 09*

> *(...) many people do not understand because they have never had an education from the beginning and there is no place where it is advertised, myself I have not heard about education being given for caring premature baby (...) until I came here (NICU) IDI 12*

4.2.2: Support and guidance given to postnatal mothers

Mothers reported that the support, guidance, and instructions they receive from health care providers help them in the prevention of complications when caring for their babies despite that some of the mothers using harsh language. Also, participants experienced a good relationship, communication, willing to help and instruction on how to prevent complication as perceived as great support by mothers

(...) the health care providers are well (...) they are trying at their best level to take care of our baby even though some of the parents we use harsh language to them (...) but they are doing their best because taking care of all these babies in one heart it needs courage (...) IDI 10

(...) the response of health care providers is good because when you ask for help concerning your baby they come and listen to you (...) then gives you instructions on how to do therefore it helps you on caring (...) IDI 09

However, some participants experienced poor responsiveness, harsh language and poor support toward helping mothers from health care providers especially nurses during caring their babies in NICU which impede the caring role as the mothers

(...) my baby was very sick, I was feeding him very little amount of milk (...) then I went to the nurse to ask about my baby's condition because he was on oxygen I couldn't be able to hold him, the nurse told me 'leave the baby there didn't you find the baby on oxygen? You just leave him' he didn't want to come and look at him, looking for his condition as a mother I felt the pain I remove the oxygen tube I took the baby to where the nurse is, then I told him did you see his condition? He replied didn't you find the baby on oxygen go back and leave the baby on oxygen (cries...) I went back (...) IDI 01

It was even harder for first-time mothers;

(...) I have 26 days but others have a month and a half or above so they have already learned some of things of caring (...) they see you like you don't provide required care to your baby so they tell you 'the baby is not supposed to be kept like that, you are always instructed and being taught, wait when your baby gets choked then you will see' (...) IDI 02

4.3: Strategies used to prevent complications of premature babies

Mothers reported different interventions or actions that they apply to prevent neonatal infection, hypothermia and aspiration pneumonia. These are common complications that may easily occur when mothers provide care to their babies at NICU.

4.3.1: Neonatal infection

Mothers expressed some of the strategies that they have used to prevent neonatal infection while caring for their babies in NICU including proper hand hygiene, regular changing of diapers, and maintaining body cleanliness

> *(...) when I come I wash my hands with soap (...) I change her diaper and wash my hands again then continue with other activities (...) IDI 02*

> *(...) I take a bath and change clothes so that my baby can be in a clean environment (...) I try to change my cloth from time to time (...) and washing his clothes. IDI 09*

> *(...) I change baby's diapers and throw away the dirty one (...) then wash my hand with soap before feeding him (...) IDI 05*

4.3.2: Hypothermia

Participants highlighted the interventions that they have used to prevent hypothermia during caring for their babies at the NICU including using hats, socks and baby blankets for covering the baby, regular measuring of temperature, skin to skin contact and avoiding placing baby to the cooler surface. Interestingly this study discovered that measuring baby's temperature is among the mothers' role, they have to buy thermometers for regular checking of the baby's temperature.

> *(...) I cover him, if it's a bed sheet I roll it so that when the baby woke up it could not go off the body, then I dress up him with hat and socks (...) IDI 07*

> *(...) when I finish feeding (...) I do a kangaroo mother care (...) I cover him with a baby blanket and lie him on my chest while he is naked then I cover him in order to maintain temperature IDI 10*

Another participant explained the importance of measuring temperature

> *(…) the temperature of the baby should be 36.5^{0}C-37.5^{0}C, higher than that I know it's a fever (…) my baby has had higher fever I tested myself it was 40.5^0, I reported to nurse and then my baby was given medicine and temperature dropped (…) it's very useful for mothers to measure their babies because it couldn't be noticed if I could not measure my baby IDI 04*

4.3.3 Aspiration pneumonia

Participants articulated some strategies that they use to prevent their babies from aspiration pneumonia when performing their role of caring in NICU including sleeping position of the baby, burping after each feed and feeding method of the baby (observing the state of the baby awake vs sleep to avoid aspiration)

> *(…) when I finish breastfeeding, I take my baby and lay him down in-side position (…) IDI 12*

> *(…) after feeding I make sure that the baby belches, and after giving him the other portion of milk I let him belch again (…) IDI 03*

> *(…) after expressing breast milk, I make sure that the baby drinks slowly to avoid milk entering the airway (…) also if the baby falling asleep I will make sure she is awake then I start feeding to avoid aspiration (…) IDI 07*

4.4: Challenges experienced by postnatal mothers in preventing complications of the premature babies

4.4.1: Mothers experienced difficulties and emotions

Mothers reported that they feel scared for seeing and touching a little baby, the uncertainty of baby's condition, full of fear and anxiety, felt bad for having preterm labour and delivery as they did not expect to have a premature baby, which impede the role as a mother hence lead to increased risk of premature complications.

> *(…)when I was given a baby I was told to put her on my chest I could not, I ask myself is this a baby or what was so little I don't know may God forgive me but she was like mice (…) I could not even touch her, I fed her on the bed and leave IDI 04*

> *(…) the moment I get labour pain and I know the time of delivery not yet, I really felt bad and I don't know if the baby will live or not, I gave birth to a premature baby he neither crying nor breathing I was really confused (…) IDI 07*

Also, participants reported that they experienced a hard time when caring for their babies because they need great care (care with caution) and also due to prematurity the baby can get complications at any moment.

> *Caring is really hard because premature baby changes his condition from time to time, you may feed her excess milk then he vomits or chocked and sometimes can lose life right there (…) you need to be very careful when caring IDI 05*

Another participant who experienced environmental stress said:

> *(…) I thought I wouldn't be able to care, my baby, I was thinking of those places (NICU) where the premature babies are kept on machines, I couldn't imagine babies to be kept in such a big machines IDI 07*

4.4.2: Lack of social and financial support

Breastfeeding is an important aspect during the postnatal period for the health of babies; therefore mothers need a balanced diet to maintain adequate breast milk for feeding. Most of the participants reported that they experienced abandonment from their relatives this poor support is due to a long hospital stay. It reaches a point that postnatal mothers that we expect her to care and breastfeed her baby lack some food to eat.

> *(…) I had so many thoughts (…) I am thinking about my baby's condition, isolation from relatives, I am thinking why relatives had abandoned me, they don't even bring food anymore, I always think a lot (…) IDI 05*

Moreover, the study showed that participant experienced bad believe about the premature baby that having a premature baby is curse and mothers being regarded as if they have misfortune, also a premature baby cannot be exposed to everyone in order reduce the chances to bewitched

(...) you may find others (people) say ooh, this woman has bad omen that is why she has delivered a premature baby (...) 'you see the child sometimes having jaundice'! Maybe they have been cursed from a mother's side (...) IDI 07

(...) the premature baby should not be seen by many people at home so other people may come in with superstitious beliefs (...) IDI 09

The study also revealed that mothers experiencing a lack of money for the fare, to cover medical expenses and other basic needs while they are hospitalized with their premature babies

(...) a relative told me that coming to the hospital every day is difficult, coming from home is far away so sometimes it becomes difficult to afford a bus fare (...) also it could be better they(hospital management) remove the service expenses because are high IDI 08

4.4.3 Lacking medical equipment and supplies

Participants reported experiencing a lack of resources like a low number of medical equipment example phototherapy, radiant warmers, and CPAP machines. Most of the participants reported that they missing resources necessary for caring for their premature babies but not completely unavailable instead not enough for the present number of clients of which all these lead to long waiting for service to their babies.

(...) those bulb of light (phototherapy) should be increased, you may find four babies have jaundice, you find it two or one of them (...) therefore you have to wait until the other babies have been done, then jaundice increases as you wait (...) therefore they have to put three or four babies in that big machine this increased risk of infection (...) IDI 07

Another participant expressed how doctors fell on the dilemma when they need medical equipment to help babies and none could be found.

(...) you may find many babies need to be kept on CPAP machine and you find they are few so even doctors become confused so they have to look who is in critical condition so she/ he can be kept first, but there are many in need (...) IDI 10

Most participants experiencing missing of supportive equipment and supply like chairs, water, bed sheets, beds, and feeding cups that lead mothers to delay to provide care to their babies, hence they have the low ability in preventing complications of premature babies

> *(...) water for hand washing is not available at the appropriate time, you may find it dried up so you need to wait for it IDI 05*

> *(...) there are few bedsheets, the baby may sleep over the same bed sheet for three days (...) you may ask for a bed sheet but you cannot find one and the bedsheet is already dirty (...) IDI 03*

> *(...) beds are few compared to a number of babies, four babies may sleep in a single bed, and therefore, it becomes easy to diseases transmission (...) IDI 12*

Furthermore one of the participants reported that there is a shortage of human resource during a night shift that could be difficult to provide adequate care to a great number of their babies

> *There are many health care providers in day hours (...) but at night shift you may find only three of them, these are few compared to a number of babies who may be approximately a hundred or ninety so it becomes difficult to give proper care to all these babies at a time (...) IDI 01*

4.4.4: Physical exhaustion

Puerperium is the 6-week period within which nursing mothers are expected to rest and sleep in order to recover from all the stressors associated with delivery. However, most of the participants reported had not rested since they had to care for their babies both during the day and night time. They have to go to NICU after every three hours they spent one hour with the baby at NICU then remained with two hours of rest in their respective postnatal wards then after a total of three hours they should come back to the NICU and the circle continue to all days of hospitalization. Most of the participants reported having sleep-deprived and they have to go to take care of their babies, otherwise, it is a very difficult situation they are going through.

(…) about sleeping, to be honest, I was not used to that condition before therefore you wake up on 21hours, 00hours, 3hours of midnight (…) now you have come in the neonatal ward hold the baby and you find yourself fell asleep instead of breastfeeding the baby (…) IDI 08

It's really difficult (…) Sometimes you fell asleep until you get surprised when you wake up you realize that all others (mothers) have already awakened (already went to neonatal ward), you wake up like crazy, you start running on steers here and there while you still feel like asleep sometimes you don't even know which way you are going (…) IDI 07

To minimize physical exhaustion the postnatal mother provided suggestion

(…) my request is to have the ward that mothers and their babies will be in the same room, would be best to stay with our babies and taking care of them while we see them, would get time to rest, but here (NICU) is far away from where we are staying (postnatal ward) (…) we are really tired. IDI 12

Despite this tireless effort made by mothers, they experienced challenging ward protocol of checking the identity hand band and calling their names before entering to NICU. This routine practice delayed mothers from seeing and caring for their babies. Mothers are commonly given a shorter time to spend with their babies at the NICU, although most of the participants claimed that it's for their babies' security.

(…) we have one hour to stay in the neonatal ward, then you are told to stay aside until they (health care provider) finish checkups there you will be late entering in the ward and when the time is up you are chased out (…) so the time to feed your baby is not enough, but it is not us that have been late but they have caused us to be late (…) although its for our babies security IDI 11

4.5: Strategies used to cope with challenges during care

Religious belief was reported by the participants to be one for the strategy to cope with emotions associated with having and caring for premature babies. They trusted in God as their help and a mediator in the course of caring for premature babies.

> *I always pray because God is everything (...) God is the one who gave me this baby and he is the one who listens to my prayers I trust him (...) I ask him to protect my baby and give me an intellectual character to take good care of my baby (...) IDI 05*

Mothers reported, became increasingly hopeful as they getting encouragement from medical and nursing staff, relatives and experienced mothers that have had cared babies in NICU fuelled their hope that helps them continues performing their roles as a mother

> *(...) when I told my relative about my child, they told me not to be scared because these premature babies grow up very healthy, so I don't have to be discouraged, they encourage me, their encouragement gives me the strength to keep on taking care of my child until now (...) IDI 04*

> *(...) In few past days, there was a woman came here and testified that she had delivered premature twins here, they were like our children, but now they are at home, growing up and healthy therefore we should not be afraid IDI 06*

Another participant emphasized the importance of being encouraged:

> *Nurses should keep on advising and encouraging mothers so that they can accept that they have delivered a premature baby and they had to take care of them, that the premature baby is a baby like others (...) IDI 10*

CHAPTER FIVE

5. DISCUSSIONS

5.0 Introduction

This chapter discusses the experience of mothers in preventing complications of premature babies at NICU. The discussion helps to identify how information, support, and guidance help mothers to prevent premature babies complications and challenges that mothers face when attempting preventing premature babies complications when caring for their babies in NICU at MNH

5.1: Postnatal mothers experience on receiving information and support in prevention of premature babies complications

During the antenatal period, mothers did not receive information on how they could prevent complications of premature babies. However, on admission to the neonatal ward, they were educated on precautions of complications of premature babies including neonatal infection, hypothermia, and aspiration pneumonia, also given instructions on how to care for their babies and promoting health for their premature babies. In consistence with the result of another study, that most of mothers lack information of Kangaroo Mother Care (KMC) prior giving birth to their premature babies but on admission they were given an education on KMC which majority of mothers were committed to KMC and indicated that they would continue to practice KMC at home and nurses are regarded as source of information to neonatal ward (44,45). Similar to this study, nurses are the key player in providing information to mothers compared to other health care providers. It was also learned from this study that mothers are confident to care for their babies in NICU as well as after discharge due to information of caring that they receive from health care providers, consistent with the results of another study done in Egypt (46)

In this study, various strategies were used by health care providers to ensure that mothers get information about caring for their babies like teaching classes, bedside instructions during doctors round and peer teaching. Contrarily to other studies done by Sofie and her colleagues (47) on information needs, the health care providers in NICU used printed materials and audio recording of neonatologist consultation as the source of information to

mothers on how to care their premature babies. In the current study, health care providers use the teaching method probably because it is the cheap, easy and available method that postnatal mothers can be coached easily. Additionally, teaching classes help in providing information on the precaution of premature babies which helps to increases knowledge of the mother and likelihood of practicing good newborn care, also strengthens the interaction between the hospitalized mothers and the health care team. Similar results revealed in another study done in Indonesia (48).

The study also found that good communication, guidance, and instructions from staff to mothers on how to care for babies enhanced caring skills which enable them to feel more comfortable and motivated to provide care to their babies that promoted bonding. Consistence with the findings found in other studies done in Brazil, Sweden, and Austria (49–51). However in current study mothers reported experiencing hash language, and poor responsiveness from health care providers as claimed to add up the burden of an already difficult situation of having a premature baby. Similar findings reported from a study done in Sweden (32).

5.2: Strategies used by postnatal mothers in preventing premature babies complications

In this study, postnatal mothers had high caring skills in the prevention of premature babies complications. Different findings from other studies done in Kenya and Ethiopia reported the knowledge gaps to exist among mothers on care and feeding practices of premature and Low Birth Weight neonates also inadequate knowledge of neonatal danger signs (28,52). Another study reported that primigravida mothers had inadequate knowledge regarding neonatal infections (53). It was learned in this study that mothers had a great caring experience probably because they have adequate information, support, and guidance from health care providers that help them to apply strategies for the prevention of premature complications. Also, it’s a national hospital where most of the resources are available compared to the low setting where skills are reported to be low. As supported by other studies that providing sufficient information and educational interventions increases mother's awareness, knowledge & skill regarding the care of low

birth weight and premature infants (46,54). Moreover WHO recommends strengthening parents' skills and competence in caring for their premature babies which will reduce stress and anxiety, and benefits the newborn's weight gain and neurodevelopment progress (6).

5.3: Challenges experienced by mothers when caring for premature babies

In the current study mothers experiencing a hard time when caring for their babies at NICU, have different emotions, some felt bad having preterm labour and delivery, the uncertainty of baby's condition and some scared on touching the baby. Also, the study revealed that mothers did not expect to have a premature baby hence increase fear and anxiety. Similar findings found in other studies done in Canada, South East England, and the USA (16,55,56). Further, in this study, participants experienced environmental stressors when caring for their babies in NICU, they claimed the way NICU is designed with a lot of machines increases worry. Similar findings reported by the study done in the USA (31). Opposing results reported in another study that some parents found NICU environment to be welcoming, quiet and felt more relaxed with staffs and other hospitalized parents (38)

Additionally, in the current study showed that participants experiencing poor support from their families due to a long hospital stay and low social-economic status which lead to failure of the caring mother to cover medical care costs and other basic needs all this add up the stresses to mothers who had a difficult situation. Similar findings revealed in another study done in Philadelphia USA (57).

The current study shows a bad belief for having a premature baby is among the reported challenges that add up stresses to caring mother, family and community believe that the mother having misfortune and it's a curse delivering a premature baby. This supported by the survey done in Malawi (58) they go further that even mothers herself believing that delivering the premature baby is not normal but must be witchcraft somewhere.

Furthermore, in this study participants experiencing tiredness due to lack of time to rest/sleep because they have to go to NICU every three hours to perform their caring role. This supported in the study done by Fayiz and his colleagues that mothers have sleep disturbances when caring for their hospitalized babies (59). As it's recommended by the

participants in the current study that rooming-in could be a solution to physical exhaustion because it will increase time to rest and alleviate stress for being with their babies in NICU. As supported findings reported in the study done by Theo and Drake 2017 (60).

5.4: Coping strategy

Despite the multiple challenges faced by postnatal mothers in preventing complications of premature babies at the NICU, they found reasons to continue with the care by developing positive coping strategies that strengthened them as they cared for premature babies during the hospitalization time. In the current study, participants use prayer and trust in God as the coping mechanisms that seem to be essential for helping mothers to bear the suffering they experience as a result of having a premature baby in the NICU. Similar results reported in another study done in Brazil (61). Also in this study, the participants found encouragement received from relatives and HCPs gives them the strength of continuing caring and release tension when caring for their babies at the NICU. Similar findings revealed by a meta-analysis study done by Doupnik et al (62).

5.5 Strength of the study

The strength of the study is that the trustworthiness was ensured using Lynne M. Connelly framework in transferability, dependability, credibility, and conformability (63).

5.6 Limitations of the study

The researcher being a midwife is likely to influence the information from the participants. I used the principle of bracketing during data collection and analysis to minimize influence.

The findings from this study were not to be judged beyond the studied sample, but the knowledge that was generated may be relevant or used in a similar context.

This study was based on reported experience on preventing premature complications rather than observed knowledge towards newborn care practices. Therefore, there was a risk that mothers may report what was expected of them, but their actual practices may be different. Further research is needed in this area.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1: Conclusion

Mothers receive support, guidance, and continuous information that would help them prevent premature complications while caring for their babies at NICU. Mothers use various strategies such as proper handwashing, covering of the baby with clothes and burping of the baby after each feeds to prevent the complication of premature babies, like neonatal infection, hypothermia and aspiration pneumonia respectively. Also, mothers experience challenges such as being emotional, missed social and economic support, lack of medical equipment and supplies and physical exhaustion which most of these challenges lead to increased risk of premature complications during care. Mothers use religious belief and encouragement as the coping strategy that helping them to endure suffering while caring for their babies in NICU.

6.2: Recommendations

Based on the study findings the following are recommended:

- Health care providers should provide counseling to mothers who caring for premature babies in NICU to reduce psychological distress.
- Also, the information on the premature baby should be given to family members so as to create awareness and reduce some bad beliefs this will enhance family support to caring mothers.
- The hospital management should ensure adequate availability of human and non human resources for mothers being able to prevent premature complications at the NICU.
- A further research study to identify the other key issues related to contributors to preterm complications to complement with the obtained findings from this study. Also, the research to be conducted at lower-level facilities to explore the caring skills of the mothers when caring for their babies at NICU, as this study focused only on a tertiary level facility.

References

1. WHO. WHO recommendations on interventions to improve preterm birth outcomes. Geneve; 2015.
2. Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, et al. Williams Obstetrics. 24th Editi. 2014.
3. UNICEF. Every Child Alive: The urgent need to end newborn deaths. Geneve; 2018.
4. WHO. Born Too Soon: The Global Action Report on Preterm birth. Geneve; 2012.
5. Dutta's D. DC Dutta's Textbook of Obstetrics. 7th ed. (HONS; HK, editor. Jaypee brothers medical publishers (P) LTD; 2013.
6. WHO. Survive & thrive: Transforming care for every small and sick newborn. Vol. 29, Delicious Living. Geneva; 2018.
7. Temu TB, Masenga G, Obure J, Mosha D, Mahande MJ. Maternal and obstetric risk factors associated with preterm delivery at a referral hospital in northern-eastern Tanzania [Internet]. Vol. 5, Asian Pacific Journal of Reproduction. Elsevier B.V.; 2016. p. 365–370. Available from:
8. Lowdermilk DL, Shannon EP, Kitty C, Alden RK. Maternity & Women ' s Health Care. 10th Editi. 2012.
9. Mahapula FA, Kumpuni K, Mlay JP, Mrema TF. Risk factors associated with pre-term birth in dar es salaam, tanzania: A case-control study. Tanzan J Health Res. 2016;18(1):1–8.
10. Dolatian M, Mirabzadeh A, Forouzan AS. Preterm Delivery and Psycho – Social Determinants of Health Based on World Health Organization Model in Iran : A Narrative Review. Glob J Health Sci. 2013;5(1):52–64.
11. Preemie SE. Tanzania Profile of Preterm and Low Birth Weight Prevention and Care. 2017.
12. MNH. PREMATURE BABIES REPORT. 2018.
13. WHO. Preterm birth. Geneve; 2018.
14. WHO. WHO recommendations on antenatal care for a positive pregnancy experience. 2016.
15. Aagaard H, Hall EOC. Mothers' Experiences of Having a Preterm Infant in the Neonatal Care Unit: A Meta-Synthesis. J Pediatr Nurs. 2008;23(3):26–36.

16. Lasiuk GC, Comeau T, Newburn-cook C. Unexpected : an interpretive description of parental traumas ’ associated with preterm birth. BMC Pregnancy Childbirth. 2013;13(1):13.
17. UNICEF. Maternal and Newborn Health Disparities in Tanzania. 2017.
18. IGME. Levels & Trend in Child Mortality: Estimates Developed by the Estimates developed by the UN Inter-agency Group for UN Inter-agency Group for Child Mortality Estimation Child Mortality Estimation. 2018.
19. MoHCDGEC. Tanzania Demographic and Health Survey and Malaria Indicator Survey. 2016.
20. Rugaimukam JJ, Mahande MJ, Msuya SE, Rune NP. Risk Factors for Preterm Birth among Women Who Delivered Preterm Babies at Bugando Medical Centre , Tanzania. SOJ Gynecol Obs Womens Heal 3(2)1-7. 2017;3(2):1–7.
21. Lawn JE, Davidge R, Paul VK, Xylander S Von, Johnson JDG, Costello A. Born Too Soon : Care for the preterm baby. Reprod Health. 2013;10(Suppl 1):1–19.
22. Joy E Lawn, Davidge R, Paul VK, Xylander S von, Johnson J de G, Costello A, et al. Born Too Soon: Care for the preterm baby. Reprod Health. 2013;10(1):1–19.
23. Ramasethu J. Prevention and treatment of neonatal nosocomial infections. Matern Heal Neonatol Perinatol. 2017;3(5):1–11.
24. Silva DS, Dourado AAG, Pearce PF, Romero FH, Amaral NA, Pereira LP, et al. Hand hygiene adherence according to World Health Organization Recommendations in a Neonatal Intensive Care Unit. Rev Bras Saúde Matern Infant, Recife. 2017;17(3):551–559.
25. Morel A. clinical case study Nosocomial transmission of Staphylococcus aureus from a mother to her preterm quadruplet. Vol. 7. 2002. p. 170–173.
26. Arzani A, Valizadeh L, Zamanzadeh V, Mohammadi E. Mothers ’ Strategies in Handling the Prematurely Born Infant : a Qualitative Study. J Caring Sci. 2015;4(1):13–24.
27. Saudah N, Nursalam, Meriana, Sulistyono A. Model of Independency Mother in Caring for Preterm Infant based on Experiential Learning Care (ELC). Int J Eval Res Educ. 2015;4(4):200–206.

28. Ontita MK, Abong GO, Mwangi M, Andago AA. Knowledge and Practice of Essential Care among Preterm and Low Birth Weight infants in Kenyatta National Hospital, Nairobi, Kenya. J Int Acad Res Multidiscip. 2016;4(8).
29. Amolo L, Irimu G, Njai D. Knowledge of postnatal mothers on essential newborn care practices at the Kenyatta National Hospital : a cross sectional study. PanAfrican Med J. 2017;27(97):1–7.
30. Guillaume S, Michelin N, Amrani E, Benier B, Durrmeyer X, Lescure S, et al. Parents ' expectations of staff in the early bonding process with their premature babies in the intensive care setting : a qualitative multicenter study with 60 parents. BMC Pediatr [Internet]. 2013;13(1):1. Available from: BMC Pediatrics
31. Williams KG, Patel KT, Stausmire JM, Bridges C, Mathis MW, Barkin JL. The Neonatal Intensive Care Unit : Environmental Stressors and Supports. Int J Environ Res Public Health. 2018;15(1):60.
32. Wigert H, Blom MD, Bry K. Parents experiences of communication with neonatal intensive-care unit staff : an interview study. BMC Pediatr. 2014;14(304):1–8.
33. Janvier A, Lantos J, Aschner J, Barrington K, Batton B. Stronger and More Vulnerable : A Balanced View of the Impacts of the NICU Experience on Parents. Pediatrics. 2016;138(3).
34. Hall SL, Cross J, Selix NW, Patterson C, Segre L, Geller PA, et al. Recommendations for enhancing psychosocial support of NICU parents through staff education and support. J Perinatol [Internet]. 2015;35(S1):S29–36. Available from:
35. Gallegos-martínez J, Reyes-hernández J, Gracinda C, Scochi S. The hospitalized preterm newborn : The significance of parents ' participation in the Neonatal Unit. Rev Latino-Am Enferm. 2013;21(6):1360–1366.
36. Veronez M, Borghesan NAB, Corrêa DAM, Higarashia IH. Experience of mothers of premature babies from birth to discharge : notes of field journals. Rev Gaúcha Enferm. 2017;38(2):1–8.
37. Heidari H, Hasanpour M, Fooladi M. The Iranian Parents of Premature Infants in NICU Experience Stigma of Shame. Med Arch. 2012;66(1):35.

38. Heinemann AB, Hellström-Westas L, Hedberg Nyqvist K. Factors affecting parents' presence with their extremely preterm infants in a neonatal intensive care room. Acta Paediatr Int J Paediatr. 2013;102(7):695–702.
39. Pereira LB, Abrão ACF de V, Ohara CV da S, Circéa Ribeiro A. Maternal Experiences with Specificities of Prematurity that Hinder Breastfeeding. Text Context Nursing, Florianóp. 2015;24(1):55–63.
40. Polit DF, Beck CT. Essentials of Nursing Research: Appraising Evidence for Nursing Practice. Seventh Ed. Wilkins WKH| LW&, editor. Philadelphia; 2010. 1-626 p.
41. Latham B. Quantitative Research Methods. 2007. 6-13 p.
42. Braun V, Clarke V. Using thematic analysis in psychology. 2006;3(2):77–101.
43. Bree R, Gallagher G. Using Microsoft Excel to code and thematically analyse qualitative data: a simple, cost-effective approach. All Irel J Teach Learn High Educ. 2016;8(2):2811.
44. Solomons N, C R. Knowledge and attitudes of nursing staff and mothers towards kangaroo mother care in the eastern sub-district of Cape Town. S Afr J Clin Nutr. 2012;25(1):33–39.
45. Rinehimer MA. Investigating the Needs of Parents of Premature Infants ' Interaction in the Neonatal Intensive Care Unit. 2017;
46. Hesham MS, Mansi Y, Abdelhamid TA, Saleh RM. Impact of a health education tool on enhancing communication between health providers and parents of neonates in intensive care in Egypt. J Chinese Med Assoc [Internet]. 2016;1–6. Available from:
47. Rouck S De, Leys M. Patient Education and Counseling Information needs of parents of children admitted to a neonatal intensive care unit A review of the literature (1990 – 2008). Elsevier Irel Ltd. 2009;76:159–173.
48. Nasir M, Amran Y, Nakamura Y. Changing Knowledge and Practices of Mothers on Newborn Care through Mother Class : An Intervention Study in Indonesia. J ofTropical Pediatr. 2017;1–7.

49. Fleury C, Parpinelli MA, Makuch MY. Perceptions and actions of healthcare professionals regarding the mother-child relationship with premature babies in an intermediate neonatal intensive care unit : a qualitative study. BMC Pregnancy Childbirth. 2014;14(313):1–10.
50. Lemmen D, Fristedt P, Lundqvist A. Kangaroo Care in a Neonatal Context : Parents ' Experiences of Information and Communication of Nurse-Parents. Open Nurs J. 2013;7:41–48.
51. Du M, Bru V, Oberleitner-leeb C, Fuiko R, Matter B, Berger A. Clinical relevance of activities meaningful to parents of preterm infants with very low birth weight : A focus group study. PLoS One. 2018;13(8):1–12.
52. Nigatu SG, Worku AG, Dadi AF. Level of mother ' s knowledge about neonatal danger signs and associated factors in North West of Ethiopia : a community based study. BMC Res Notes. 2015;8(309):4–9.
53. Babu R. A study to assess the knowledge of primipara mothers on neonatal infection in a selected hospital at Mangalore with a view to develop an information booklet. 2013.
54. Arzani A, Zahedpasha Y, Zabihi A, Amiri SRJ. Effect of Education on Awareness of Practice of Mothers in Care of Premature Infants. J Babol Univ Med Sci. 2017;19(10):42–47.
55. Arnold L, Sawyer A, Rabe H, Abbott J, Gyte G. Parents ' first moments with their very preterm babies : a qualitative study. BMJ Open. 2013;3:1–7.
56. Segre L, McCabe J, Chuffo-siewert R, O'Hara M. Depression and Anxiety Symptoms in Mothers of Newborns Hospitalized on the Neonatal Intensive Care Unit Lisa. NIP-PA Author Manuscr. 2014;63(5):320–332.
57. Enlow E, Faherty LJ, Wallace-keeshen S, Martin AE, Shea JA, Lorch SA. Perspectives of Low Socioeconomic Status Mothers of Premature Infants NIH. Pediatrics. 2017;139(3).
58. Robb-mccord J, Kamanga E, Litch J. Formative Assessment of Community , Family and Health Care Provider Knowledge , Attitudes , Beliefs and Practices Regarding Preterm and Low Birth Weight Newborns in Balaka District , Malawi. 2017.

59. Al F, Abdullah KL, Chong MC, Chua YP, Me M, Kawafha A. Stress , Anxiety , Depression and Sleep Disturbance among Jordanian Mothers and Fathers of Infants Admitted to Neonatal Intensive Care Unit : A Preliminary Study. J Pediatr Nurs. 2017;36:132–140.
60. Theo LO, Drake E. Rooming-In : Creating a Better Experience. J Perinat Educ. 2017;26(2):79–84.
61. Ramos FP, Maria K, Paula P De. Maternal Coping with Baby Hospitalization at a Neonatal Intensive Care Unit. Paid (Ribeirão Preto). 2017;27(67):10–9.
62. Hill D, Palakshappa D, Worsley D, Doupnik SK, Shaik A, Marsac M, et al. Parent Coping Support Interventions During Acute Pediatric Hospitalizations : A Meta-Analysis. Pediatrics. 2017;140(3).
63. Connelly LM. Trustworthiness in Qualitative Research. 2016;25(6):435–436.

APPENDICES

Appendix I: In-depth interview guide (English version)

May I thank you for your time to take part in this study. My name is Anna L. Babu and I would like to talk to you about the experience of postnatal mothers on complication prevention during caring premature babies. The interview will take less than an hour; I will be recording our conversation in order to get all the information because I could not be able to remember what we were talking. The information will be confidential and remember, you don't have to talk about anything you don't want to and you may end the interview at any time and there is no right or wrong answer so be free to speak. Are there any questions about what I have just explained?

Identification no

i). Age…….

ii. Address ……

iii. Marital status: Single ( ) Married ( ) Cohabiting ( ) Divorce ( )

iv. Level of education: None ( ) Primary ( ) Secondary ( ) University ( )

1. What is your general experience about caring premature baby?
2. How do you prevent your baby from getting neonate complications?

Probe:

- How do you do to prevent Infections? (Hand washing)
- How do you do to prevent hypothermia (covering)
- How do you to prevent aspiration pneumonia (burping the baby after feeding)

3. In your experience of caring your baby to prevent premature babies complications
    - How do you see the availability of resources
    - Educated on how to manage the baby/prevent complication? What education/information you received from staff regarding prevention of complications (Any other places that you receive the information – TV, posters, media, Antenatal Clinic)
    - Support from staff

- Staff/mother interactions/relationships…eg staff responsiveness

4. What are the challenges do you face in preventing complications when caring for preterm babies?

   Probe: psychological, physical (to and fro movement to NICU, express breast milk), social, institutional

5. What kind of support do you think mothers need that can help when taking care of their premature babies?
6. Is there anything you would like to say about your experience of caring the preterm babies?

THANK YOU FOR YOUR PARTICIPATION

Appendix II: In-depth interview guide (Swahili version)

Ninakushukuru kwa kuutoa mda wako kushiriki katika utafiti huu. Naitwa Anna L Babu na ninapenda nizungumze nawe kuhusu uzoefu wa kina mama juu ya kuzuia matatizo yasijitokeze kwa watoto wao njiti. Mahojiano haya yatachukua mda chini ya lisaa; Nitakuwa nina rekodi mazungumzo yetu ili niweze kuzipata hizi taarifa maana sitaweza kukumbuka vitu vyote tutakavyo vizungumza. Taarifa zote unazotoa ni siri na kumbuka huna haja ya kuzungumza kitu ambacho hujisikii kukizungumzia na unaweza jitoa katika utafiti huu mda wowote. Pia hakuna jibu sahihi na lisilo sahii hivyo kuwa huru kuzungumza. Kuna swali lolote kuhusiana na nilicho kieleza?

Namba ya utambulisho ☐

i. Umri……
ii. Unakoishi……
iii. Hali ya ndoa: Sijaolewa ( ) Nimeolewa ( ) Naishi na bwana ( ) Nimeachika ( )
iv. Elimu: Hajasoma ( ) Msingi ( ) Secondary ( ) Chuo ( )

1. Ni nini uzoefu wako kwa ujumla jinsi unavyomlea mtoto wako njiti?
2. Eleza ni mbinu zipi unazotumia kuzuia matatizo yasijitokeze kwa mtoto wako?
   Probe:
   - Ni jinsi gani unazuia maambukizi ya vimelea? (kunawa mikono)
   - Ni jinsi gani unazuia kupoteza joto? (kumfunika)
   - Ni jinsi gani unazuia nimonia? (kumcheulisha mtoto baada ya kumlisha)
3. Na kwa uzoefu wako wakulea mwanao ili asipate matatizo je!

Dodosa:

- Upatikanaji wa vitendea kazi ili uweze kuzuia unauonaje? (maji, sabuni, kofia, mashuka)
- Umefundishwa jinsi ya kuzuia hayo mataizo?Ni elimu / taarifa zipi ulipata kwa wahudumu wa afya kuhusiana na kuzuia matatizo hayo na mara nyingi mnafundishwa na wahudumu gani (sehemu nyingine unazopata taarifa – TV, vipeperushi, mtandao, ANC)
- Unapata msaada kwa wahudumu wa afya?
- Mahusiano kati yako na wahudumu ukoje mfano; mwitikio wa muhudumu, lugha

4. Ni changamoto zipi unazokutana nazo ukiwa unazuia matatizo yasijitokeze wakati unamlea mwanao?

   Dodosa: Kiakili, Kimwili (kwenda na kurudi wodini, kukamua maziwa), Kijamii na kweny hii taasis ya muhimbili
5. Unafikiri ni masaada upi wakina mama wanahitaji ili iwasaidie kuwalea watoto wao vizuri?
6. Kuna jambo lingine lolote ulitaka kulizungumza kuhusu uzoefu wako wa kuwalea watoto njiti?

ASANTE SANA KWA USHIRIKIANO WAKO

Appendix III: Informed consent - English version

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED HEALTH SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS

ID NO……

Greetings! My name is **Anna L. Babu** I am a midwife student pursuing MSc. Midwifery and Women's health at Muhimbili University of Health and Allied Sciences. Currently conducting a study on**"Experience of postnatal mothers on caring skills to prevent complications of premature babies in neonatal intensive care unit at Muhimbili National Nospital"**

Purpose of the study

To explore the experiences of postnatal mothers in the prevention of preterm complications when caring preterm babies at NICU, MNH**.**

Sponsor

Self sponsor

What participants involve

If you agree to participate in this study you will be required to share your experience of complication prevention through an in-depth interview on how you as a mother prevent preterm complication during caring for your baby. The information that you will give will be used for research purposes only

Confidentiality

All collected information will be kept confidential and this will be maintained by using codes and no names will be asked or required. Notes collected during the interview and the recordings will be analyzed with only the study identification number and if the results of

the current study will be published or presented in a scientific meeting, names and other information that might identify you will not be used.

Benefits

There will be no direct benefit for your participation; however the study findings will help to develop guidelines/protocols for educating health care providers on area that is important to help mothers in their caring role and how to reduce further complications to their preterm babies' also will inform the hospital management the needs of the mothers on prevention of complications when caring preterm babies

Compensation

There will be no compensation of any kind in participation.

Risk

The study will not harm you physically, psychologically or emotionally.

Rights to Withdraw and Alternatives

Participation in this study is voluntarily and you have the right to refuse to participate or withdraw from the study even if you have already given your consent. Refusal to participate or withdraw from the study will not involve penalty or loss of any benefits to which you are otherwise entitled.

Who to Contact

If you ever have questions about this study, you should contact the principal investigator **Anna L. Babu +255 (0) 762734803,** P. O. Box 65004, Dar es Salaam. If you ever have questions about your rights as a participant, you may contact or call Director of Research and Publications Committee **Dr. Bruno Sunguya** at MUHAS, P.O. Box 65001, Dar es Salaam. Phone 0685217272, Tel: 21524889

Signature: Do you agree to participate? Put √ in the appropriate box

Participant agrees ( ) Participant does NOT agree ( )

I, …… have read the contents in this form. My questions have been answered. I agree to participate in this study.

Signature of Participant…….Date……..

Signature of the Researcher……...Date……..

Appendix IV: Informed consent- Swahili version

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

KURUGENZI YA UTAFITI NA UCHAPISHAJI

Ridhaa ya Kushiriki Katika Utafiti

Namba ya utambulisho……

Habari! Jina langu naitwa **Anna L. Babu**, ni mwanafunzi wa shahada uzamili ya ukungana afya ya mama katika Chuo kikuu cha Afya na Sayansi Shirikishi Muhimbili. Kwa sasa nafanya utafiti juu ya "**Uzoefu wa kina mama wa jinsi ya kuzuia matatizo yasijitokeze kwa watoto njiti pindi wanapowalea watoto wao kwenye chumba cha watoto mahutihuti katika Hospitali ya Taifa ya Muhimbili**"

Malengo ya utafiti

Kueleza uelewa wa kina mama wa jinsi ya kuzuia matatizo yasijitokeze kwa watoto njiti na uzoefu wao wa kuzuia wakati wanavowalea katika Hospitali ya taifa ya Muhimbili

Mfadhili

Binafsi

Jinsi ya kushiriki

Ushiriki wako katika utafiti huu utakuwa kwa ridhaa yako binafsi na huru pasipo madhara yoyote. Katika ushiriki wako utahitajika kujibu maswali yanayohusu uelewa wako juu ya kuzuia matatizo yasijitokeze kwa mtoto njiti na uzoefu wako wa kuzuia hayo matatizo wakati unamhudumia mwanao

Usiri

Taarifa zote utakazotoa zitatunzwa katika usiri mkubwa, hutatakiwa kujaza jina lako, taarifa zitakazokusanywa zitafanyiwa kazi kwa namba ya Utambulisho pekee na kama majibu yatatangazwa au kutolewa taarifa katika mkutano wa kisayansi hakutatolewa jina au taarifa yoyote inayokutambulisha wewe.

Faida

Hakutakuwa na faida ya moja kwa moja katika ushiriki wako, japo majibu yatasaidia kutengeza mtaala kwa wahudumu wa afya ili waweze kuwasaidia kina mama kuweza kuzuia matatizo yasijitokeze kwa watoto wao njiti kipindi wanapowahudumia. Pia itasaidia menejimenti ya hospitali ya Taifa ya Muhimbili kutambua mahitaji muhimu ya kina mama pindi wanapowalea watoto njiti.

Fidia

Hakutakuwa na fidia ya namna yoyote ile katika ushiriki wako.

Athari

Utafiti huu hauna aina yoyote ya athari kimwili, kibaologia au kiakili.

Haki ya kujitoa katika utafiti

Ushiriki wako katika utafiti huu ni hiari yako na una haki kukataa kushiriki au kujiondoa katika utafiti huu hata kama umetoa kibali cha kushiriki. Kukataa kushiriki au kujiondoa katika utafiti hutatoafidia au kupoteza faida zako

Nani wa Kuwasiliana

Kama kuna swali lolote lile kuhusu utafiti huu, wasiliana na mtafiti mkuu **Anna L. Babu**, kwa namba ya simu ya mkononi +25 762734803, Sanduku la Posta 65004**,** Dar es Salaam. Kama una swali lolote kuhusu haki zako kama mshiriki unaweza Kuwasiliana na mkuu kamati ya kitengo cha utafiti nautangazaji **Dr. Bruno Sunguya** katika Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili, Sanduku la Posta 65001, Dar es Salaam. Simu ya mkononi: 0685217272, Tel: 21524889

Je? Unakubali kushiriki weka alama ya tiki (√) katika kisanduku husika

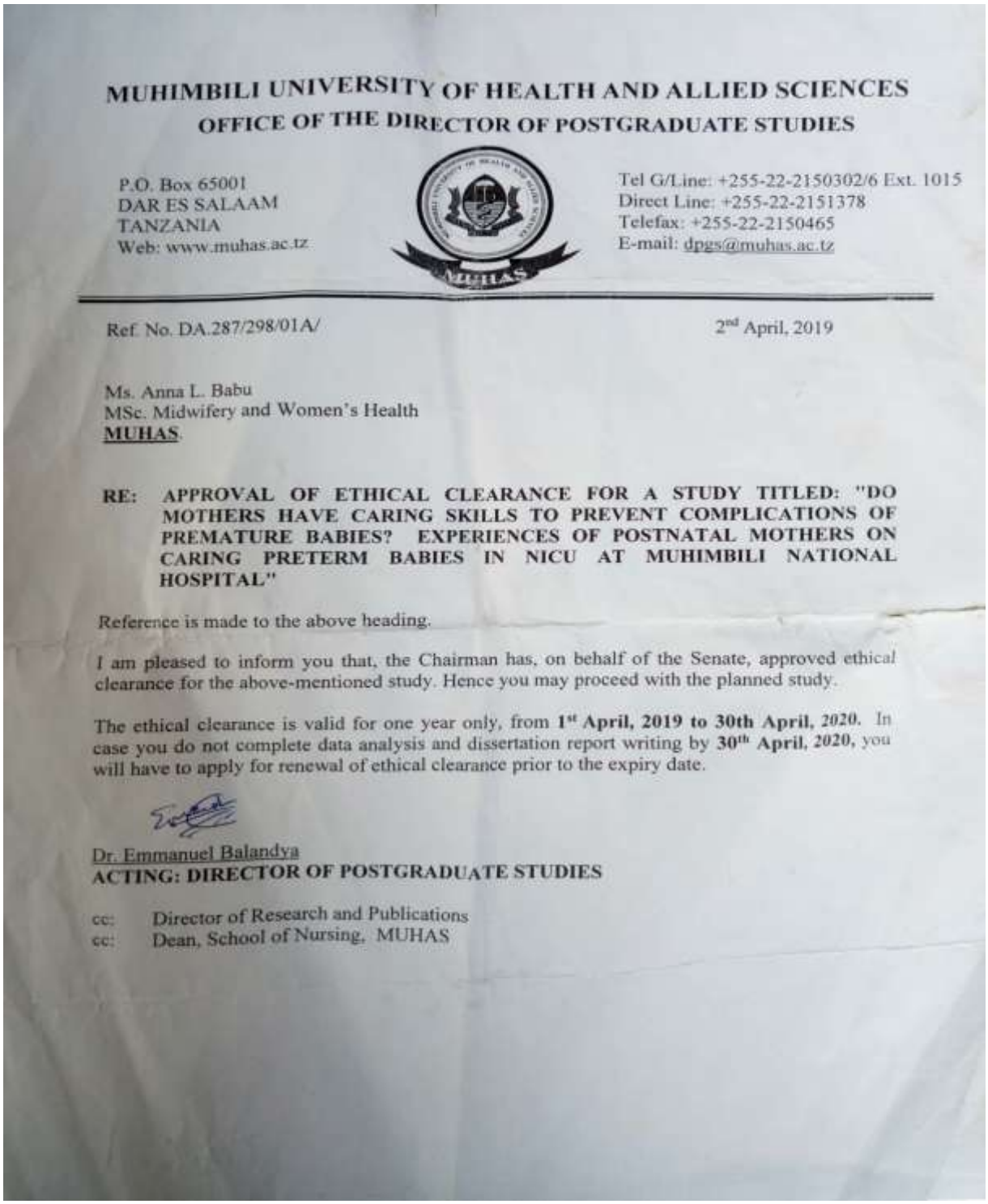
Ndiyo ( ) Hapana ( )

Mimi,……nimeelezwa / nimesoma maelezo yote ya fomu hii na nimejibiwa maswali yangu yote. Nimekubali kushiriki katika utafiti huu.

Sahihi ya mshiriki …….Tarehe…….

Sahihi ya mtafiti ……Tarehe……....

Appendix V: Ethical clearance



MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES

P.O. Box 65001
DAR ES SALAAM
TANZANIA
Web: www.muhas.ac.tz

Tel G/Line: +255-22-2150302/6 Ext. 1015
Direct Line: +255-22-2151378
Telefax: +255-22-2150465
E-mail: dpgs@muhas.ac.tz

Ref. No. DA.287/298/01A/

2nd April, 2019

Ms. Anna L. Babu
MSc. Midwifery and Women's Health
MUHAS

RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED: "DO MOTHERS HAVE CARING SKILLS TO PREVENT COMPLICATIONS OF PREMATURE BABIES? EXPERIENCES OF POSTNATAL MOTHERS ON CARING PRETERM BABIES IN NICU AT MUHIMBILI NATIONAL HOSPITAL"

Reference is made to the above heading.

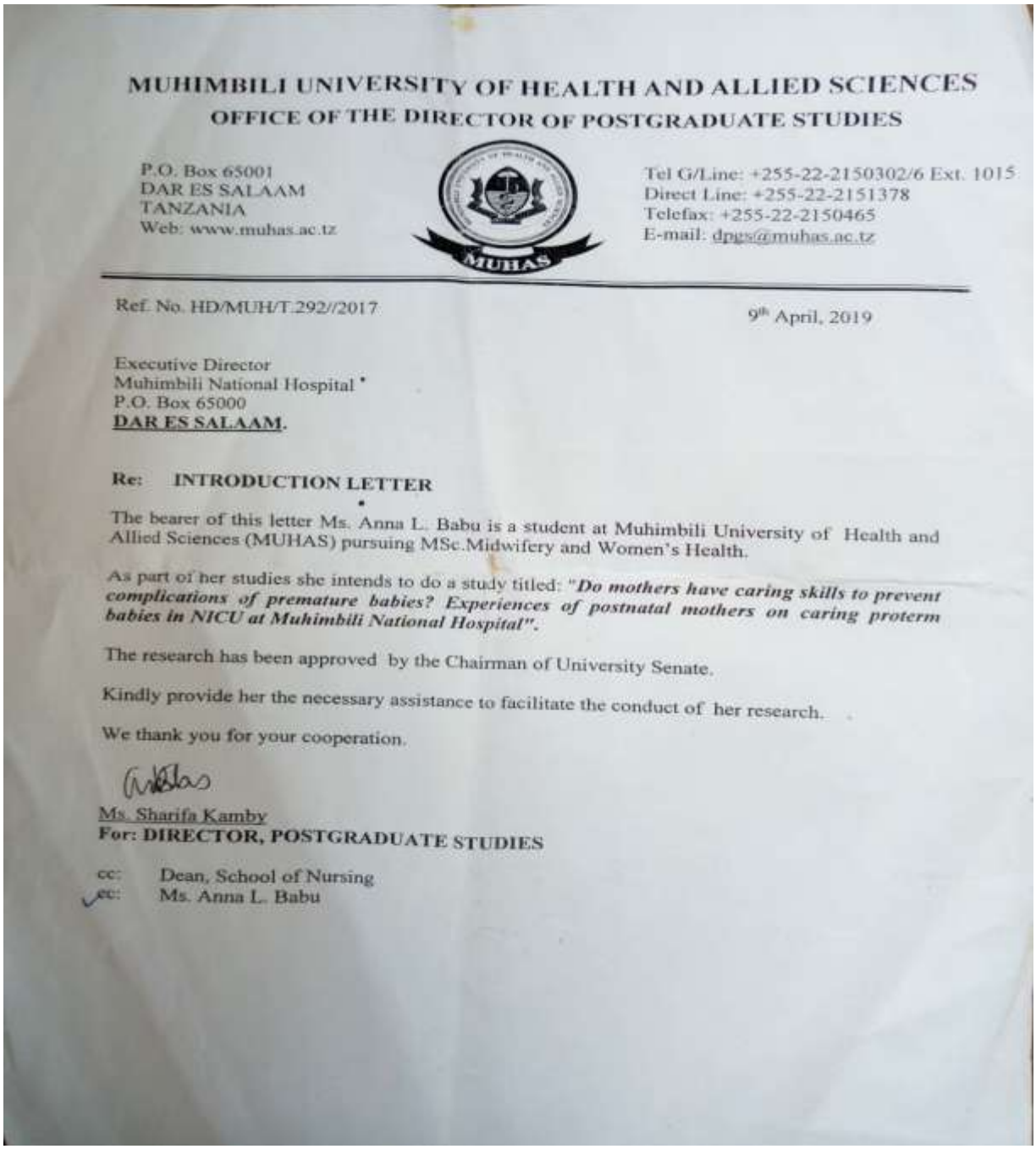
I am pleased to inform you that, the Chairman has, on behalf of the Senate, approved ethical clearance for the above-mentioned study. Hence you may proceed with the planned study.

The ethical clearance is valid for one year only, from **1st April, 2019 to 30th April, 2020.** In case you do not complete data analysis and dissertation report writing by **30th April, 2020,** you will have to apply for renewal of ethical clearance prior to the expiry date.

Dr. Emmanuel Balandya
ACTING: DIRECTOR OF POSTGRADUATE STUDIES

cc: Director of Research and Publications
cc: Dean, School of Nursing, MUHAS

Appendix VI: Introduction letter



MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES

P.O. Box 65001
DAR ES SALAAM
TANZANIA
Web: www.muhas.ac.tz

Tel G/Line: +255-22-2150302/6 Ext. 1015
Direct Line: +255-22-2151378
Telefax: +255-22-2150465
E-mail: dpgs@muhas.ac.tz

Ref. No. HD/MUH/T.292//2017

9th April, 2019

Executive Director
Muhimbili National Hospital
P.O. Box 65000
DAR ES SALAAM.

Re: INTRODUCTION LETTER

The bearer of this letter Ms. Anna L. Babu is a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing MSc.Midwifery and Women's Health.

As part of her studies she intends to do a study titled: ***"Do mothers have caring skills to prevent complications of premature babies? Experiences of postnatal mothers on caring proterm babies in NICU at Muhimbili National Hospital".***

The research has been approved by the Chairman of University Senate.

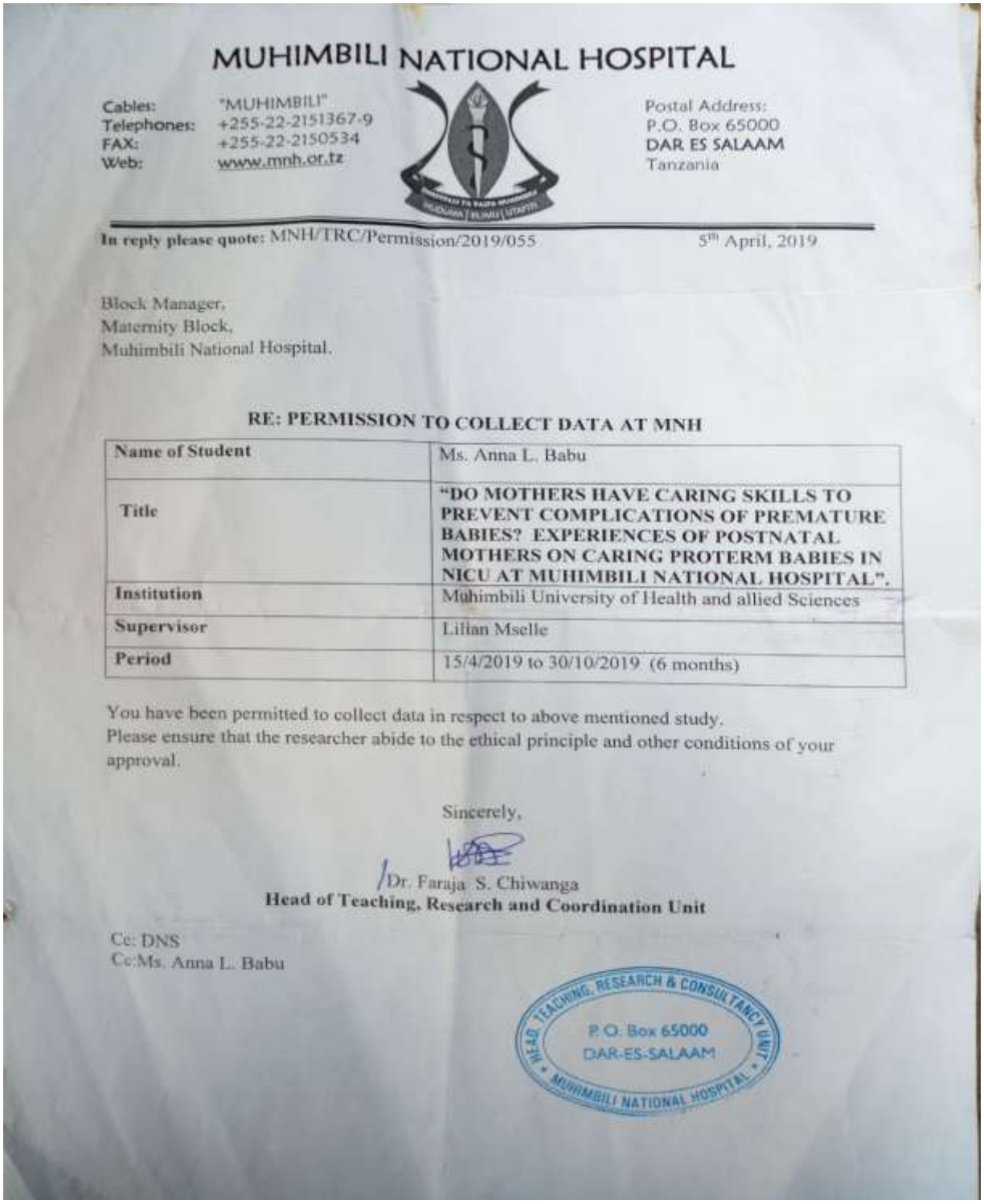
Kindly provide her the necessary assistance to facilitate the conduct of her research.

We thank you for your cooperation.

Ms. Sharifa Kamby
For: DIRECTOR, POSTGRADUATE STUDIES

cc: Dean, School of Nursing
ec: Ms. Anna L. Babu

Appendix VII: Permission to conduct the study



MUHIMBILI NATIONAL HOSPITAL

Cables: "MUHIMBILI"
Telephones: +255-22-2151367-9
FAX: +255-22-2150534
Web: www.mnh.or.tz

Postal Address:
P.O. Box 65000
DAR ES SALAAM
Tanzania

In reply please quote: MNH/TRC/Permission/2019/055 5th April, 2019

Block Manager,
Maternity Block,
Muhimbili National Hospital.

RE: PERMISSION TO COLLECT DATA AT MNH

Name of Student	Ms. Anna L. Babu
Title	**"DO MOTHERS HAVE CARING SKILLS TO PREVENT COMPLICATIONS OF PREMATURE BABIES? EXPERIENCES OF POSTNATAL MOTHERS ON CARING PROTERM BABIES IN NICU AT MUHIMBILI NATIONAL HOSPITAL".**
Institution	Muhimbili University of Health and allied Sciences
Supervisor	Lilian Mselle
Period	15/4/2019 to 30/10/2019 (6 months)

You have been permitted to collect data in respect to above mentioned study.
Please ensure that the researcher abide to the ethical principle and other conditions of your approval.

Sincerely,

Dr. Faraja S. Chiwanga
Head of Teaching, Research and Coordination Unit

Cc: DNS
Cc:Ms. Anna L. Babu

HEAD TEACHING, RESEARCH & CONSULTANCY UNIT
P. O. Box 65000
DAR-ES-SALAAM
MUHIMBILI NATIONAL HOSPITAL